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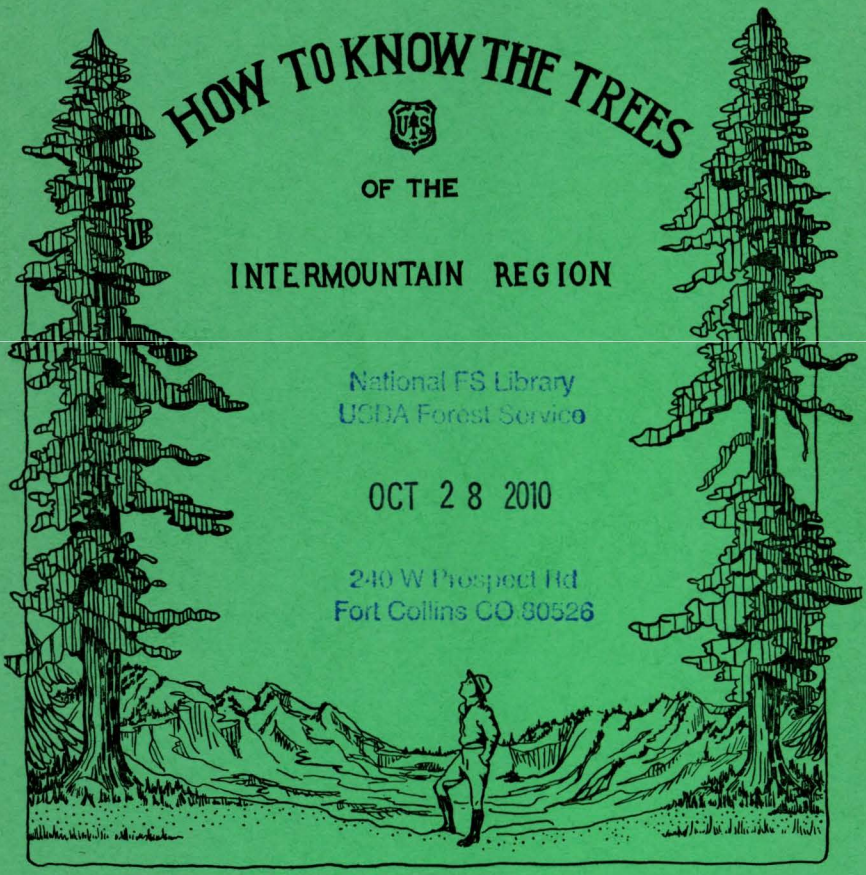
U. S. FOREST SERVICE
OGDEN, UTAH

HOW TO KNOW THE TREES

OF THE

INTERMOUNTAIN REGION



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(OAKLAND-4-27-40-10,000)

NATIVE TREES OF THE INTERMOUNTAIN REGION

C. N. WOODS, Regional Forester

Almost everybody is interested in trees and recognizes at least a few species. This pamphlet is issued to assist those without technical training who desire to know more of the trees which grow in our region. There are few species of native trees here as compared with most forest regions of the United States and to learn those growing in the vicinity of one's home is easy.

Unfortunately the common names of trees are not the same everywhere but the same tree is known locally by many names even in the same State. As an example, lodgepole pine is called scrub pine, knotty pine, tamarack, prickly pine, black pine, spruce pine, jack pine, and birds-eye pine in various places. Other trees have almost as many local names. The names given here are those used by the United States Forest Service and are probably those in most general use. The scientific names, while not as generally used by the natives of a locality, are far more consistent the world over and are given with the common name in this pamphlet. The scientific name is more valuable for future study of these different species as it can be found in nearly every book on tree description.

How to Know the Evergreen Trees

To most people the evergreen trees on our mountains are pines. As a matter of fact, besides pines there are firs, spruces, junipers, cedars, and others. Furthermore, there are several kinds of each of these. They are not hard to tell apart as the leaves (needles) and cones are usually quite different, as shown in the key that follows:

1. Needles reduced to little green scales on the twigs, cones reduced to small bluish berries. **Juniper or Cedar**
2. Needles in tufts on the tips of humps on the twigs, falling off in the winter, cones about an inch long. **Larch**
3. Needles gathered together at the base in bunches of one to five in a little sheath that often wears off after the first year. Cones with thick woody scales. **Pines**
4. Needles scattered over the twigs singly—less than an inch long.

   Needles sharp pointed, square in cross section, leaving twigs rough like a grater when they fall off; cones with parchment-like scales, falling off the tree whole. **Spruces**

   Needles sharp pointed, flat; fruit not a cone but a red berry. **Yew**
5. Needles blunt, mostly grooved on upper side, leaving flat round scars when they fall off.

   Cones rarely seen; they stand erect on the upper branches of the tree and fall to pieces when ripe instead of dropping off the tree whole; buds blunt pointed and pitchy. **Firs**

   Cones often seen, they hang pendant and fall off the tree whole; **three pronged tongues stick out between** the scales; buds are sharp pointed, shiny, smooth, red brown. **Douglas Fir**

THE PINES

We have seven kinds of pine in this region distinguished as follows:

Needles in bundles of five—

Needles about one inch long, cones with sharp bristles on the tips of the scales. **Bristlecone Pine**

Needles over one inch long, cones with no bristle on the scale tips.

Cones less than 3½ inches long and dark purple in color. **Whitebark Pine**

Cones over 3½ inches long and green in color. **Limber Pine**

Needles in bundles of three (rarely two) 3 to 6 inches long. **Ponderosa Pine**

Needles in bundles of two—

Slender tree of the higher mountains.

Cones unsymmetrical; scales armed with small prickles; scales numerous; cones 1½ times as long as broad. **Lodgepole Pine**

Short spreading tree of the hot foothills.

Cones symmetrical; scales not armed; scales few; cones nearly as broad as long. **Pinyon Pine**

Needles in bundles of one— **Single Leaf Pinyon**

BRISTLECONE PINE
(Pinus aristata)

This species of pine is rare in the Intermountain Region, being found chiefly on sterile or poor soils.

It is found in a few places in southern Utah and Nevada on rocky slopes at high elevations. This tree is also known as foxtail or cattail pine as the needles stay on the twigs for many years making long tail-like branches.

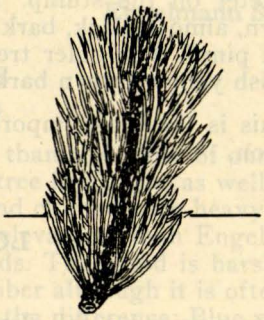
Although sometimes cut for firewood, this tree has no commercial value. This tree can be observed in its native state at Cedar Breaks (southern Utah) where it grows along the edges of the cliffs.

LIMBER PINE and WHITEBARK PINE
(Pinus flexilis & P. albicaulis)

Both species are almost always found as crooked stunted trees growing on exposed ridges, dry rocky hillsides and other severe sites. Limber pine grows through all the Intermountain Region, whitebark pine only in the north part of central Idaho, and in western Wyoming. Both these trees are used a little for mine timbers in inaccessible rocky mountains at high elevations and are cut for railroad ties where they occur in mixture with lodgepole pine on tie sale areas. They grow scattered or singly as a rule and make forests only in a few places at high elevations in Wyoming.

THE PINES

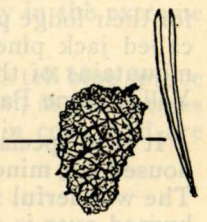
Fox Tail Pine
(Pinus aristata)



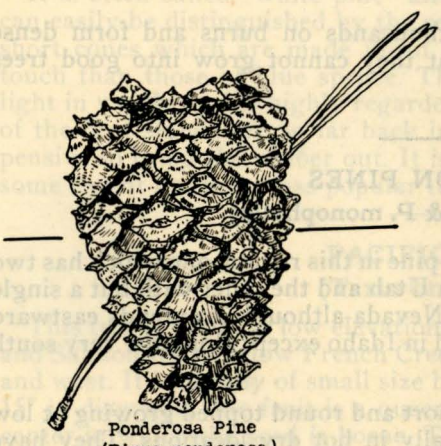
Branch

Limber Pine
(Pinus flexilis)

Whitebark Pine
(Pinus albicaulis)

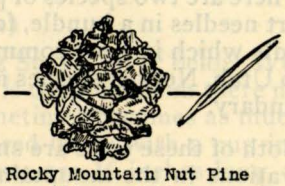


Lodgepole Pine
(Pinus contorta)



Ponderosa Pine
(Pinus ponderosa)

One-leaved Nut Pine
(Pinus monophylla)



Rocky Mountain Nut Pine
(Pinus edulis)

PONDEROSA PINE
(Pinus ponderosa)

This pine is common in southern Utah, Arizona and western Idaho, growing at lower elevations in the mountains.

It becomes a large tree from 100 to 150 feet tall and four to six feet in diameter on the stump. The young rapid-growing trees have dark brown, almost black, bark and are generally known as "blackjack" or "bull pine". The older trees, commonly called "yellow pine" have a reddish yellow brown bark.

This is the most important pine for lumber in the Intermountain Region.

LODGEPOLE PINE
(Pinus contorta)

This species is a tall slender tree used in the old days by the Indians for their lodge poles. The tree derived its name from this use. It is also called jack pine and bird's-eye pine. It is found throughout all the mountains of this region and is especially common in the vicinity of Yellowstone Park.

It is of special value for railroad ties, telephone poles, power poles, house logs, mine props, and timbers on account of its tall slender form. The wonderful reseeding power of this tree on areas which have been burned over is due to the ability of the closed cones to endure a fire which kills the trees but not the seed. The cones hang on the limbs many years and sometimes become imbedded in the wood. The cones are not round on top but have the appearance of being lopsided. The cones ordinarily remain closed and retain their seed in good condition for 10 to 14 years, but the heat of a fire causes the cones to open and reseed the area.

The small trees come up by thousands on burns and form dense thickets, sometimes so dense that they cannot grow into good trees without first being thinned.

PINYON PINES
(Pinus edulis & P. monophylla)

There are two species of pinyon pine in this region, one which has two short needles in a bundle, found in Utah and the other with but a single needle which is most common in Nevada although it extends eastward into Utah. Neither species is found in Idaho except along the very south boundary.

Both of these trees are small, short and round topped growing at low elevations in the mountains, usually in hot dry locations. They have little commercial value but are used locally for mine props, second class railroad ties and fuelwood. The edible seeds or nuts are often borne in great quantities and are collected for the market.

SPRUCES

Two kinds of spruce grow in this region.

Needles are very sharp, cones 3″ long or over, old bark furrowed. **Blue Spruce**

Needles sharp, cones usually not over 2″ long, old bark scaly. **Engelmann Spruce**

BLUE SPRUCE
(Picea pungens)

This spruce is more famed for its beauty than any other of our local evergreens and it is a favorite ornamental tree in Europe as well as in America. The typical tree is symmetrical and clothed with heavy blue-green foliage. Blue spruce grows at lower elevations than Engelmann and is almost always near streams or ponds. The wood is harsh and splintery and is not considered as good lumber although it is often cut with Engelmann Spruce without knowing the difference. Blue spruce is found in most of Utah, western Wyoming, but only in the extreme southeastern part of Idaho.

Contrary to general opinion it is impossible to always tell blue spruce by the color of the foliage; which is usually blue-green, as these trees when growing in swamps are often a yellow-green in color and are called "water spruce".

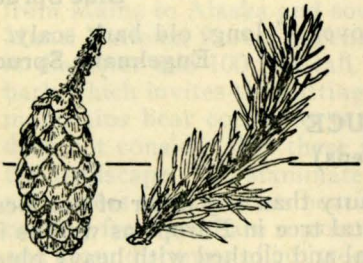
ENGELMANN SPRUCE
(Picea engelmanni)

This spruce is a native of all our high mountain lands and also grows along streams and ponds at lower elevations. Near timber line on the mountains it forms nearly pure stands.

It is often called "white pine" although not a pine at all. Old trees can easily be distinguished by the red-brown scaly bark and the small short cones which are made up of softer scales, more papery to the touch than those of blue spruce. The wood of this tree is white and light in weight and is highly regarded as a timber tree, although many of the best stands are so far back in the mountains that it is too expensive to bring the timber out. It is planted as an ornamental tree to some extent but is far less popular than the blue spruce.

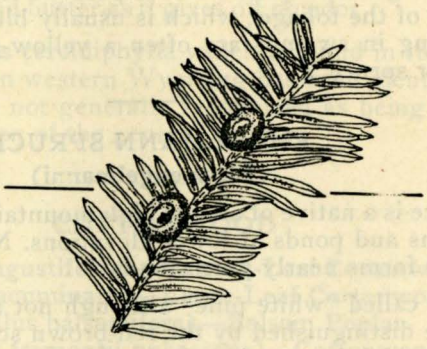
PACIFIC YEW
(Taxus brevifolia)

This tree is found at low elevations along Snake River below Weiser and Salmon River below French Creek and is common from there north and west. It is usually of small size but sometimes becomes as much as 15″ in diameter. The fruit is a queer little red berry with a cup in the center in which the seed is borne. The leaves are ¾ inches long, very narrow, sharp pointed, borne singly and are more or less spirally arranged on the branchlets but they twist so that they appear to be more or less regularly arranged on each side of the twigs. The wood is very hard, strong, durable, and is rated by archers as one of the best woods for bows. It is also used for canoe paddles and fancy cabinet work as it takes a high polish. It was formerly used by Indians for spear handles.

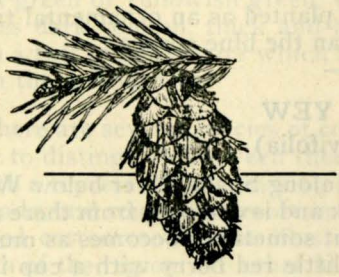


Engelmann Spruce
(Picea engelmanni)

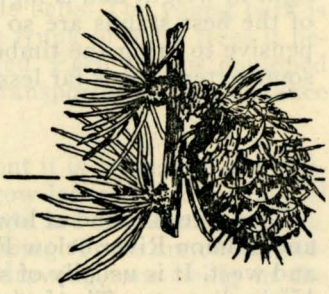
Blue Spruce
(Picea pungens)



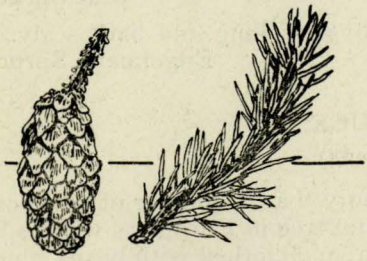
Western Yew
(Taxus brevifolia)



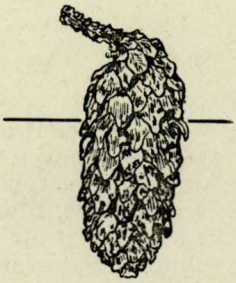
Douglas Fir
(Pseudotsuga taxifolia)



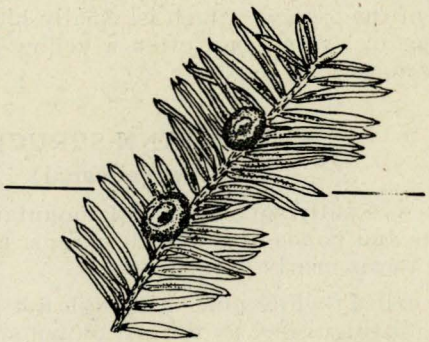
Western Larch
(Larix occidentalis)



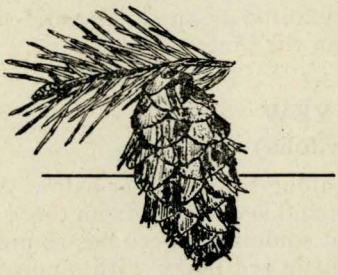
Engelmann Spruce
(Picea engelmanni)



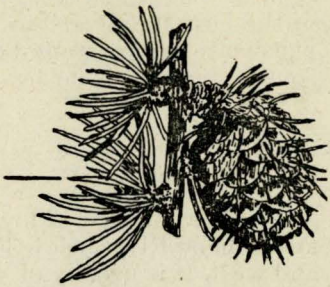
Blue Spruce
(Picea pungens)



Western Yew
(Taxus brevifolia)



Douglas Fir
(Pseudotsuga taxifolia)



Western Larch
(Larix occidentalis)

DOUGLAS FIR
(Pseudtsuga taxifolia)

Douglas fir is not a fir at all. It is very different, especially in cone characteristics from the true firs, and at the same time it is different from all the other evergreen trees in this region.

Douglas fir is often called locally "red pine". It is nevertheless the same tree that furnishes the Douglas fir lumber. In Washington and Oregon this tree grows to a great size. The Douglas fir of this region is one of our most valuable timber trees and is cut extensively for lumber, dimension material and railroad ties and is our best timber for bridge stringers and for other uses requiring great strength.

Douglas fir is found in all our mountains growing at medium elevations with white fir, lodgepole pine and ponderosa pine.

WESTERN LARCH
(Larix occidentalis)

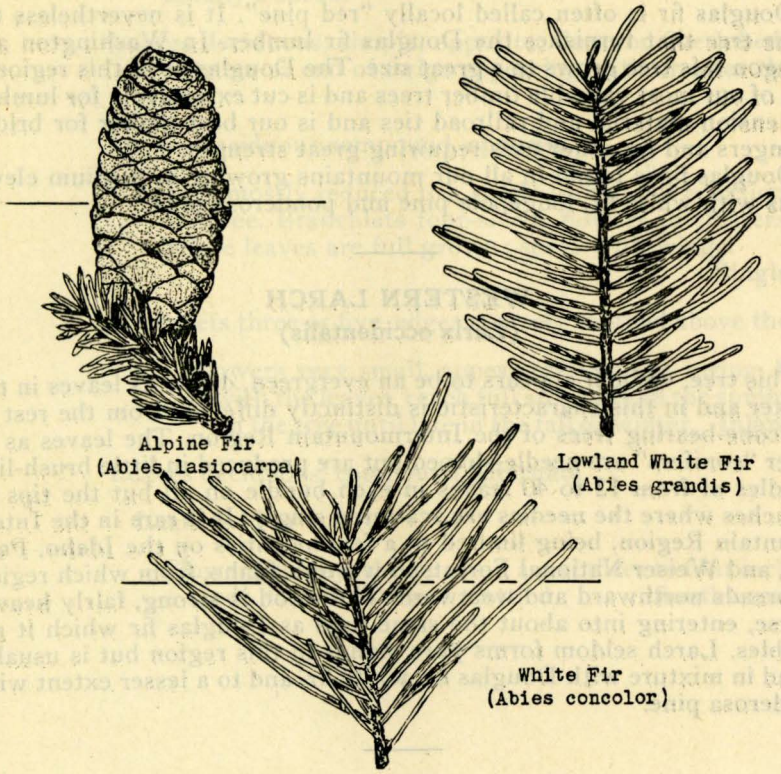
This tree, while it appears to be an evergreen, drops its leaves in the winter and in this characteristic is distinctly different from the rest of the cone-bearing trees of the Intermountain Region. The leaves as in other "conifers" are needle-shaped but are produced in little brush-like bundles of from 12 to 40 leaves in each bundle on all but the tips of branches where the needles are scattered singly. It is rare in the Intermountain Region, being limited to a few localities on the Idaho, Payette, and Weiser National Forests in western Idaho, from which region it spreads northward and westward. The wood is strong, fairly heavy, coarse, entering into about the same uses as Douglas fir which it resembles. Larch seldom forms pure stands in this region but is usually found in mixture with Douglas fir, white fir, and to a lesser extent with ponderosa pine.

FIRS

There are three species of the so-called "true" firs in this region and they are rather hard to tell apart. They are best distinguished by the difference in the needle characteristics and by cone color.

Cones purple	—Needles about 1″ long, tree with sharp spire-like crown. (Universal in region.) **Alpine Fir**
Cones yellow-green or purple	—Needles 1″ to 2″ long, blue-green, curved, usually acute or rarely notched on tip, crown not spire-like. (Utah, Nevada and Wyoming.) **White Fir**
Cones green	—Needles 1″ to 2″ long, usually straight standing in two ranks at right angles to the stem, deeply grooved, silvery white on under surface, blunt and often notched on tip, crown not spire-like. (Idaho.) **Lowland White Fir**

THE FIRS

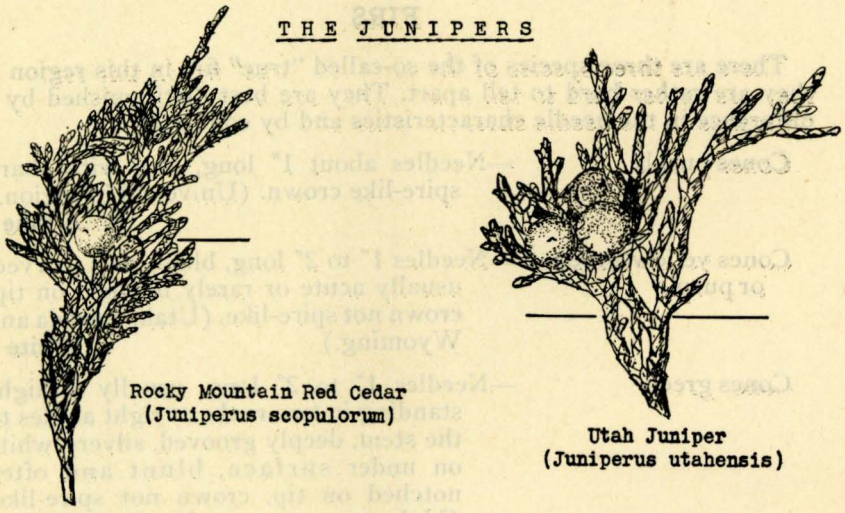


Alpine Fir
(Abies lasiocarpa)

Lowland White Fir
(Abies grandis)

White Fir
(Abies concolor)

THE JUNIPERS



Rocky Mountain Red Cedar
(Juniperus scopulorum)

Utah Juniper
(Juniperus utahensis)

ALPINE FIR
(Abies lasiocarpa)

As its name suggests, this is typically a tree of high altitudes, which is found throughout the upper two-thirds of our mountains. It is also commonly known as white balsam in Utah to distinguish it from white fir which is called black balsam. Its wood is white, soft, and very brittle. It is cut along with Engelmann spruce with which it grows and is used in rough construction and for boxes to some extent. In other parts of the country it is used for paper pulp. The blisters on the bark yield a healing balsam. Small trees are often hard to tell from other true firs but in older trees the spire-shaped crown tells alpine fir every time.

The cone in the illustration for the firs is an alpine fir cone but it is representative of the other two species found in the region. The other cones have not been shown since they are similar in shape although somewhat different color.

WHITE FIR
(Abies concolor)

White fir is usually found at lower elevations than alpine fir. It is also commonly called black balsam in Utah. This is probably on account of the bark of old trees being darker in color than that of alpine fir with which it often grows, or it may be because of the dark blue-green color of its foliage. It yields a wood of fair quality which is good for lumber as well as for butter and cheese containers as the wood is tasteless and odorless. It has been much used in Utah for general farm purposes since it grows low in the mountains and is easily reached from the settlements.

LOWLAND WHITE FIR
(Abies grandis)

This species of fir is found in the Intermountain Region only in western Idaho on the Payette, Weiser, and Idaho National Forests, from which region it spreads far to the north and west. Sometimes it is hard to tell from alpine fir but as a rule it grows at a lower elevation, has a wider crown and is usually marked by broad spreading lower limbs with beautifully even secondary branchlets and twigs. The wood is generally considered inferior in quality but it is being used more and more in general construction and for railroad ties which are given preservative treatment before being used.

Its most important use is in boxes and tubs, the wood of which must be odorless as containers for butter, candy, cheese, etc.

JUNIPERS OR CEDARS

There are three species of juniper or cedar in this region which grow to tree size. Two of them are so nearly alike that they cannot be readily distinguished.

Berries about ¼" to ⅓" in diameter, blue in color, bark scaly and grayish. When the outer bark is stripped off, the inner bark is red brown in color. The branches and twigs are slender and drooping, heartwood red. **Rocky Mtn. Red Cedar**

Berries about the size of peas, bluish or coppery in color, bark fibrous and shreddy, on twigs a pale reddish brown and scaly, twigs stiff and stout, heartwood brown.
Utah Juniper and One-Seed Juniper

ROCKY MOUNTAIN RED CEDAR
(Juniperus scopulorum)

This tree is very similar to the well-known red cedar of the East and has the same sort of red wood with moth repellant properties. In this region it rarely grows straight and tall enough to make sawlogs although short lengths are frequently cut and used in cedar chest construction. At best it is a short tree of good diameter. One of these trees in Logan Canyon, Utah, is estimated to be nearly 3,000 years old, probably being the oldest tree in the Intermountain Region. The wood is resistant to decay and is much used for fence posts although it is less durable than that of Utah Juniper. The wood is suitable for pencil making although no use is made of it for this purpose in this region. This tree is suited to dry soils but grows very slowly. It is usually found growing in scattered open stands on dry rocky hillsides.

UTAH JUNIPER AND ONE-SEED JUNIPER
(Juniperus utahensis) (J. monosperma)

These two species of juniper grow generally in hotter and drier situations than the red cedar and as a rule are associated with the pinyon pines. The wood is brownish in color, is very durable and is much used for fence posts.

The one-seed juniper tends to form a many-topped tree with no stem of any great size. It is, therefore, of less value for post wood than the Utah juniper.

How to Know the Native Deciduous or Broadleaf Trees

An effort is made in the following key to use simple characteristics of wood, leaves, buds, bark, and fruits which will enable the average person to distinguish the trees to which they apply.

Wood not having annual rings:

Leaves clustered at ends of branches, 5 to 10 inches long, parallel veined, sharp pointed, leaves at base of trunk and on trunk remain many years; fruit pod-like; found only on deserts in southwestern part of region. **Joshua Tree**

Wood having annual rings:

Leaves evergreen, ½" to 1" long, clustered or crowded, netted veined, remain on tree two years.

Fruit single in axils of leaves, about ¾ inches long, hairy, with long slender hairy plume, two to three inches long and spirally twisted when ripe. **Curl-Leaf Mountain Mahogany**

Leaves deciduous, simple, alternate.

Fruit in catkins or aments, male and female flowers on different trees.

Winter buds with a single scale, leaves narrow and pointed, with toothed edges and short stems. **Willow**

Winter buds with several scales, leaves roundish with slender long flattened stems.

Bark white and smooth. **Aspen**

Bark dark and furrowed on trunks, yellowish green on young branches. **Cottonwood**

Fruit in catkins or aments, male and female flowers on same tree.

Twigs without terminal buds; leaves thin, acutely saw-toothed, turn a dull yellow in autumn before falling; bark dark bronze color, shiny and marked with small, pale brown, corky growths known as lenticels. **Red Birch**

Fruit a woody cone, about a half inch long.

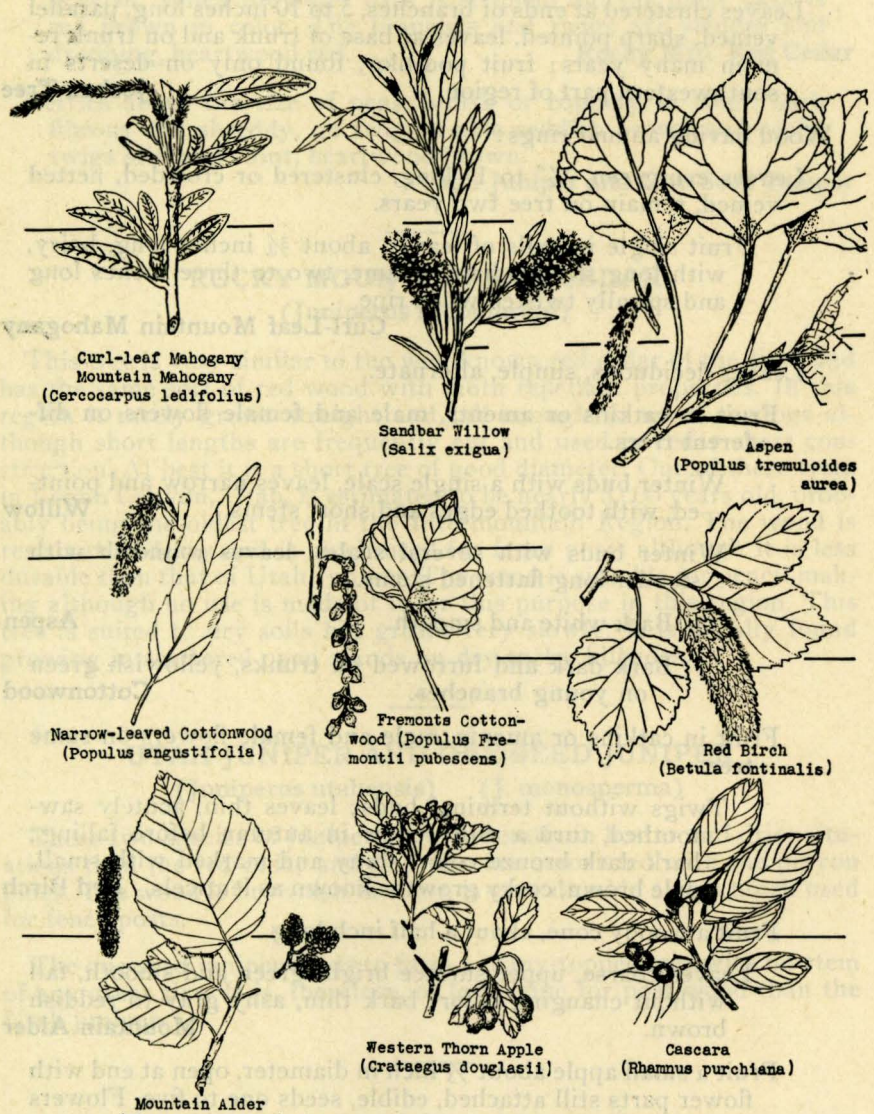
Leaves coarse, upper surface bright green and smooth, fall without changing color; bark thin, ashy gray to reddish brown. **Mountain Alder**

Fruit a small apple about ⅓ inch in diameter, open at end with flower parts still attached, edible, seeds one to five. Flowers in showy clusters at ends of short leafy branchlets. Branches more or less zigzag, close together, spiny. **Hawthorn**

Fruit with two or three stones, resembles a small plum, flesh thin and rather juicy, borne in axils of leaves. **Cascara**

Fruit with a single stone.

Fleshy and edible, borne in long clusters. **Cherry**



Curl-leaf Mahogany
Mountain Mahogany
(Cercocarpus ledifolius)

Sandbar Willow
(Salix exigua)

Aspen
(Populus tremuloides aurea)

Narrow-leaved Cottonwood
(Populus angustifolia)

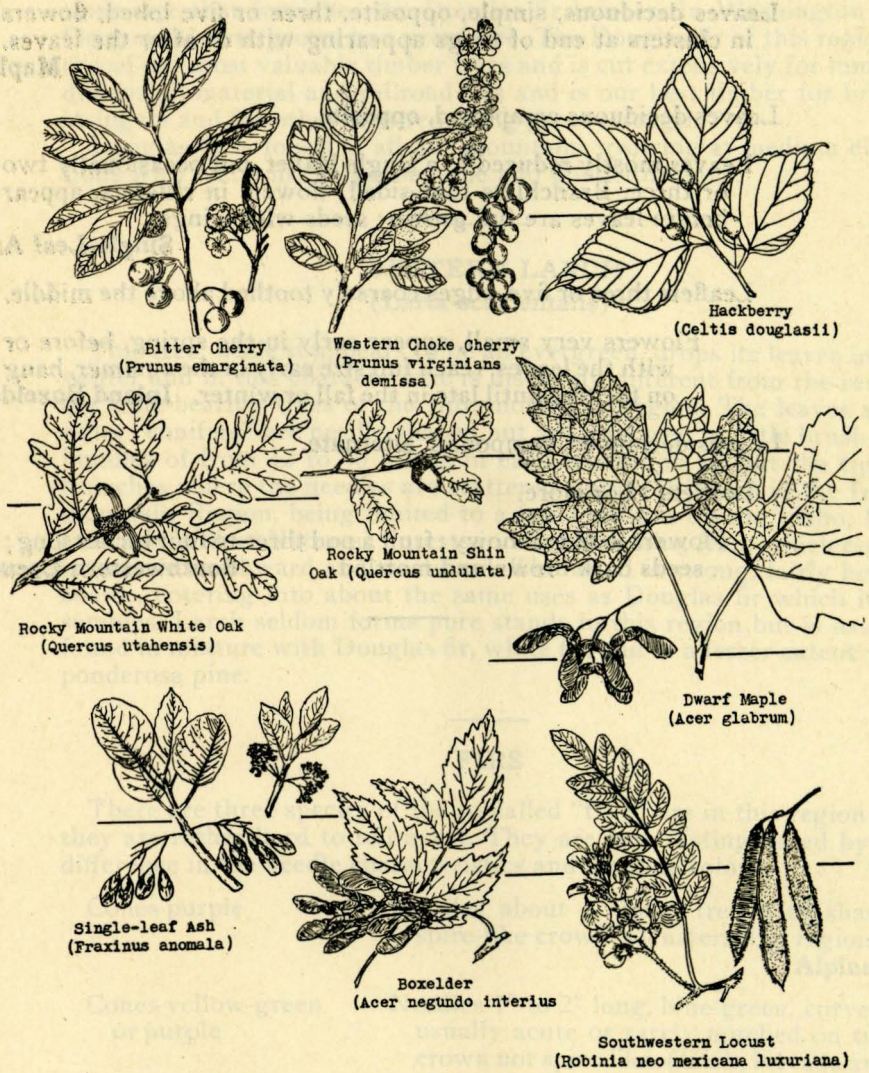
Fremonts Cottonwood (Populus Fremontii pubescens)

Red Birch
(Betula fontinalis)

Mountain Alder
(Alnus tennifolis)

Western Thorn Apple
(Crataegus douglasii)

Cascara
(Rhamnus purchiana)


Bitter Cherry
(Prunus emarginata)
Western Choke Cherry
(Prunus virginians
demissa)
Hackberry
(Celtis douglasii)
Rocky Mountain White Oak
(Quercus utahensis)
Rocky Mountain Shin
Oak (Quercus undulata)
Dwarf Maple
(Acer glabrum)
Single-leaf Ash
(Fraxinus anomala)
Boxelder
(Acer negundo interius
Southwestern Locust
(Robinia neo mexicana luxuriana)

Flesh thin, skin thick, not edible, borne singly in axils of leaves and often hang on tree over winter. Bark with corky warts or ridges. **Hackberry**

Fruit an acorn, maturing in one year. Leaves alternate, more or less deeply lobed; bark light gray and roughly furrowed; usually a shrub. **Oak**

Leaves deciduous, simple, opposite, three or five lobed, flowers in clusters at end of twigs appearing with or after the leaves. **Maples**

Leaves deciduous compound, **opposite.**

Leaves mostly reduced to a single leaflet, but occasionally two or three. Branchlets four-sided; flowers in clusters, appear before leaves are full grown; seeds with wings. **Single-Leaf Ash**

Leaflets three or five, edges coarsely toothed above the middle.

Flowers very small, appear early in the spring, before or with the leaves, reach full size early in the summer, hang on the tree until late in the fall or winter. **Inland Boxelder**

Leaves deciduous, compound, **alternate.**

Leaflets 15 or more.

Flowers in May, showy; fruit a pod three to four inches long; seeds dark brown and mottled. **Southwestern Locust**

JOSHUA TREE
(Yucca brevifolia)

This is the only monocotyledon to merit mention as a tree. By monocotyledon is meant a plant which comes from seed with a single leaf and which does not put on annual rings of growth as do our evergreen and hardwood trees.

This tree is found only on the low deserts in southwestern Utah, southern Nevada and California. The long, sharp leaves cover the entire trunk of the tree and form dense clusters at the ends of the branches giving the plant an unusual and queer tufted appearance totally unlike that of any other tree which we have. Those on the trunk die after many years and fall away in patches exposing the light gray, ridged and deeply furrowed, corky bark. The fruit becomes as much as four inches long and is full of black seeds which the Indians sometimes grind into meal and bake. The soft fibrous wood is disposed in layers which might easily be taken for annual rings. It is fairly heavy when green and full of moisture but is very light when dry. It is used as wrapping material or made into boxes and doctors have found it useful for splints and casts for broken bones.

MOUNTAIN MAHOGANY
(Cercocarpus ledifolius)

This sometimes is big enough to be called a tree but is more often a shrub. It grows on dry exposed sites in the foothills and mountains throughout the Intermountain Region. It is an evergreen but not a conifer. The tree trunk is short with stiff and spreading branches. The bark on old trunks is dark colored, rough and scaly. The new twigs are hairy and brown. The seed is borne singly in the axils of the leaves and when ripe is one-half to three-quarters inches long and hairy. At the end of the seed is a hairy tail or plume two to three inches long which is spirally twisted. This seems to be an ingenious arrangement for planting the seed as it straightens out when wet and coils up like a corkscrew when drying, thus having a tendency to force the seed into the soil. The wood is very hard, and is valued for fuel and curios although it is hard to cut. It is one of the few woods that will not float in water.

WILLOW
(Salix sp.)

There are many species of willow but most of them do not reach tree size. They are always found in wet locations such as along stream banks. The leaves are short stemmed, alternate, narrow and dark green on the upper surface. The bark on the slender young branches is smooth, shiny, and greenish. That on the trunk of older trees is fairly thick, dark colored, separated into ridges by deep irregular furrows. It is not likely to be confused with any other tree. The wood is soft, easy to cut and very rapid growing. It sprouts readily and limbs or twigs will grow if cut from the tree and planted in a wet place. The young sprouts are used by Indians and others for making baskets and other containers.

Salix lariandra candata—Western Black Willow
Salix mackenziiana —Diamond Willow
Salix scouleriana —Mountain Willow
Salix exigua —Sandbar Willow

The above are some of the more common western species in the Intermountain Region.

ASPEN

(Populus tremuloides aurea)

It is also called quaking asp because its leaves move in the slightest breeze. It is the most widely distributed tree in America, being found from Maine to Alaska and south to Mexico but it grows largest in the Manti National Forest in central Utah where it is often over three feet in diameter and 100 feet tall. It has smooth, white or greenish white bark which invites the cutting of names, dates, and pictures so that the mountains bear countless carved records although the lover of trees does not consider that these inscriptions add greatly to the beauty of the landscape. The staminate and pistillate flowers are borne on separate trees and the trees bearing the latter are rare. Consequently trees coming from seed are uncommon but clumps from underground roots and around stumps of cut trees make dense clumps of slender whip-like new trees wherever there is plenty of light, and deer, sheep, or cattle do not eat them heavily. The wood is widely used for fuel, posts, pulp, and poles on farms but occasionally some of the larger trees are sawed into lumber. Aspen is also used in the making of excelsior for which it is especially desirable because of its white color. The wood is soft, light and not very durable in the ground unless it is in a place which is always wet or always dry. It is extensively used in the east for pulp. It is a good boxwood for cheese and butter as it gives off no odor.

Populus tremuloides cercidiphylla which is found in the upper basin of the Hoback River in western Wyoming has been identified as a separate species but it is not generally recognized as being any different than the common aspen of the general region.

COTTONWOOD

(Populus angustifolia)—Narrow-Leaf Cottonwood
(Populus acuminata)—Lance-Leaf Cottonwood
(Populus balsamifera)—Balsam Poplar
(Populus fremontii pubescens)—Cottonwood

These common and generally well known trees grow along streams in the sage, pinyon, juniper, and ponderosa pine belts. The young bark is light green or yellowish green, while on the trunk of older trees it becomes dark colored, thick and heavily ridged. Each seed is equipped with a tuft of silky hairs which aids in its transportation to a distance from the mother tree.

There are several species of cottonwood but it is ordinarily unnecessary to distinguish between them. The narrow-leaved cottonwoods, of which a representative drawing has been made, are distributed in Utah, Nevada, and south with more or less overlapping. There are two broad-leaved cottonwoods, also illustrated by a drawing, one being in the north of the region, the other having a more limited range in southern Utah, Nevada and westward into California. All make very rapid growth in moist locations as is characteristic of the poplars and willows. All species are used extensively for fuel and a limited amount is sawed into lumber. The wood is suitable for pulp making although no use is made of it in this region for that purpose.

RED BIRCH
(Betula fontinalis)

This is often called river birch, water birch, or just birch. It is a shrub or small tree which grows along water courses, sometimes in rather dense thickets. The bark is smooth, thin, dark bronze, in color except for little brown dots. It peels off easily in thin bands around the tree. The branches are slender and limber. The wood is used occasionally for fuel and fencing. The tree is sometimes confused with alder although the two are not very much alike.

MOUNTAIN ALDER
(Alnus tenuifolia)

Often called alder or tag alder. This common shrub or small tree grows along mountain streams or on wet mountainsides. It is seldom more than 30 feet tall or 8 inches in diameter and is usually very much smaller. The leaves are simple, alternate, have bright green upper surfaces and fall early in autumn without changing color. The bark is smooth, thin and reddish brown. The wood is easy to chop and is occasionally used for fuel although even this use of it is very limited. The tree is occasionally confused with red birch because both grow along streams but they are readily distinguished since birch has shiny bronze colored bark and the flowers and fruits are borne in small cylindrical aments about an inch long while the fruit of the alder is a woody cone, oblong in shape and about one-half inch long.

HAWTHORN
(Crataegus sp.)

Also called haw, thorn-apple, thorn-bush or thorn. It is usually a shrub but sometimes it becomes a small tree with scaly bark, rather stiff zigzag branches armed with stout prickly spines. These do not add to its popularity but do make it easy to recognize. The limbs grow close together making a dense top. The flowers are quite large and showy. The fruits are borne in clusters and are shaped like apples. They are inclined to be fleshy but the large seeds take up most of the space under the dark blue or black skin. The fruit remains on the tree over winter and furnishes many wholesome meals for birds when the snow is deep. Porcupines relish the bark when herbaceous vegetation is scarce. Over 600 species of hawthorn have been identified throughout the world, over 150 of them being in the United States. Only skilled botanists presume to distinguish between them.

Crataegus douglasii—Western Thorn-apple
Crataegus rivularis —River Hawthorn

The above are two species commonly found in the Intermountain Region.

CASCARA
(Rhamnus purshiana)

This is sometimes called shittimwood, bearberry, or wahoo. It is often a shrub but also frequently grows to tree size in rich bottomland soil at low elevations. It is found in canyons of the Colorado River, Salmon River and Snake River and more particularly in the Pacific Coast states. It looks something like alder, having a thin light gray or brownish bark which is mottled with darker patches. The fruit grows from axils of the

leaves and is nearly round, one-half inch in diameter, and black when ripe. The bark has medicinal properties being the source of the drug Cascara sagrada.

CHOKECHERRY

(Prunus virginia demissa)—Western Chokecherry
(Prunus virginia melanocarpa)
(Prunus emarginata)—Bitter Cherry

This is sometimes a tree but more often a shrub and is found throughout the Intermountain Region. It usually grows in moist but well drained, fairly good soil and often forms the principal shrub over considerable areas in the mountains at medium elevations. The showy white flowers blossom in May in the south and June in the north. The fruit of the chokecherry is purple when ripe, is good to eat and is much gathered for jellies and syrup. The fruit of the bitter cherry is red at first becoming darker later and is very bitter. The bark is sometimes used in medicine.

HACKBERRY

(Celtis douglasii)

This is a small unimportant shrub or tree found only in the southern part of the region and southward. It sometimes becomes six inches in diameter and 15 feet tall. It grows along water courses in rocky or gravelly soil. It is readily recognized by the corky warts or ridges on the bark. The globular fruit is on the end of a small stem like that of a cherry but there is only one in the axil of a leaf. It is reddish or purple and ripens in the fall but often hangs on the tree over winter.

OAK

(Quercus sp.)

This is a common shrub or small tree of the foothills and lower mountains in the southern part of the region. It usually grows in dense patches and the stiff resistant branches are remembered by those who have had occasion to walk or ride through them. It sometimes becomes large enough for posts but its chief use is for fuel. It is well known to residents within its range and is not confused with any other native trees. Its rough grayish bark, stout stiff branches, rather deeply lobed leaves and acorns make it easy to distinguish. Two or more species have been identified by botanists as native to Utah but the differences are too small to be of consequence.

Quercus utahensis —Rocky Mountain White Oak
Quercus undulata —Rocky Mountain Shin Oak
Quercus Utahensis submallis—Rocky Mountain White Oak

Above are the species most common in the Intermountain Region.

MAPLES

(Acer glabrum)—Dwarf Maple
(Acer grandidentatum)—Big-tooth Maple

There are two rather common maples which it is ordinarily unnecessary to separate. The dwarf maple or Rocky Mountain maple as it is often called, enjoys a wider range and is the more common species. It seldom becomes more than a bush or shrub but in deep soil in some of

the canyons of Idaho it becomes six to eight inches in diameter. It is a prominent feature of the mountainsides after the fall frosts as the hues of the leaves are varied and striking. The leaves are thin and variously three-lobed, sometimes having deep clefts between the lobes and sometimes only shallow notches. Its flowers have petals and are borne in clusters on the ends of the twigs. The bark is light grayish or reddish brown and fairly smooth.

The big-tooth maple is a much stouter and coarser appearing tree than the dwarf maple. Along the banks of streams in the vicinity of the Manti and Uinta Forests it sometimes becomes a foot or more in diameter and 50 feet tall. Leaves are large, thick, and firm; flowers do not have petals; bark is much like that of the dwarf maple. The wood makes choice fuel but is little used otherwise.

The fruit of maples is distinctive as it consists of two-winged seeds joined at the base only, the tips spreading out at various angles in different species. The boxelder is a maple and also has this sort of fruit.

SINGLE-LEAF ASH

(Fraxinus anomala)

A small ash tree is found near streams in the southern part of Utah, southern Nevada, and Arizona. It is often more a shrub than a tree and is seldom over 20 feet tall. The bark is thin, dark brown, and divided into narrow ridges. Like all ashes the leaves and branchlets are opposite. The young twigs are sharply four-sided. It is of little importance.

BOXELDER

(Acer negundo interius)

This tree is native in Utah only within the Intermountain Region. It grows in most places along water courses and is not known to be more than 10 inches in diameter in its native haunts. It is a maple but differs from other maples in having compound leaves. There are three to five leaflets which turn yellow in the autumn before falling. The flowers come out before the leaves, the male and female flowers being borne on different trees. The fruits become full grown early in the summer but usually hang on the tree until or into winter. The native boxelder is considered by botanists as a different species from the large one commonly planted along streets and in lawns.

SOUTHWESTERN LOCUST

(Robinia neo-mexicana luxurians)

This tree is commonly called locust. It is found only in southern Utah and southward. It is a small tree less than 25 feet tall and not more than six or eight inches in diameter. More often it is only a shrub. It grows on the banks of streams at low elevations. The thin light brown, slightly furrowed bark is not distinctive but the long compound leaves with 15 or more leaflets readily serve to identify it. The showy flowers come out in May and are quite fragrant. The tree sometimes flowers again in August. The seeds are somewhat mottled and are borne in a pod which is three to four inches long. This tree is often planted as an ornamental; is quite hardy and thrives as far north as the New England states.

GLOSSARY OF TERMS

Species —Kinds or varieties.

Sheath —An arrangement of soft scales about the base of a needle or cluster of needles.

Crown —The mass of branches as a whole.

Annual ring —The layer of wood which is laid on each year by the growth of the tree.

Vein —Small tube-like structure through which moisture and food pass in the leaves.

Axils —The angle formed on the upper side of the attachment of a leaf with a stem.

Deciduous —Leaves do not remain on tree over winter.

Simple leaves —Not made up of several leaflets.

Leaflets —Similar in appearance to a normal leaf but usually several attached to a common stem to make a true leaf.

Catkins —A single sexed spike of flowers with leaf-like woody parts; the spike usually falls as a whole.

Aments —Same as catkin.

Scale —On buds, usually a thin brown parchment-like covering sometimes waxy in appearance as on the poplars. On cones, a heavy woody or stiff parchment-like covering for the seeds and several of them making up the cone.

Terminal bud —One at the end of the twig or branch.

Lobed —Cut in, but with rounded rather than sharp margins and not deeper than about half way between the outer edge and blade center.

Compound leaf —One made by the union of two or more leaflets united on a common stem.

Staminate —Male flowers.

Pistillate —Female flowers.

Herbaceous —Soft, green plants which freeze down in the winter.

Globular —Shaped like a globe.

REFERENCES USED

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Note: Drawings included in this pamphlet, due to reductions necessary in the printing process, are not in accordance with a definite scale. For drawings as to exact or modified scale, see the references listed above.